CLAIMS

1. A device for detecting a non-authorized object in a zone with protected access, the device being characterized by the fact that it comprises in combination:

· a supporting base (100) designed to receive a single foot wearing a shoe, of an individual to be inspected;

· detector means (250, 260, 800, 810) adapted to detect a target material and associated with the support base (100); and

· position-identifying means (400) on the support base (100) suitable for imposing accurate positioning of the foot of the individual being inspected relative to the detector means.

2. A device according to claim 1, characterized by the fact that the supporting base (100) comprises a block in the form of a step with the position-identifying means (400) on its top surface (102).

3. A device according to claim 1 or claim 2, characterized by the fact that the height of the supporting base (100) lies in the range 100 mm to 200 mm, and most preferably is about 150 mm.

4. A device according to any one of claims 1 to 3, characterized by the fact that the width of the supporting base (100) lies in the range 450 mm to 700 mm, and most preferably is about 575 mm.

5. A device according to any one of claims 1 to 4, characterized by the fact that the step of the supporting base (100) lies in the range 500 mm to 900 mm, and most preferably is about 670 mm.

6. A device according to any one of claims 1 to 5, characterized by the fact that the position-identifying means (400) comprise a drawing of a footprint (410).

7. A device according to claim 6, characterized by the fact that the drawing of a footprint (410) includes a preferably rectangular frame.

8. A device according to claim 7, characterized by the fact that the length of the frame lies in the range 300 mm to 500 mm, and is preferably about 400 mm, and the width of the frame lies in the range 110 mm to 250 mm, and is preferably about 180 mm.

9. A device according to any one of claims 6 to 8, characterized by the fact that the drawing of a footprint (410) includes a middle line (420).

10. A device according to any one of claims 6 to 9, characterized by the fact that the drawing of a footprint (410) includes a footprint (440) built up from two adjacent ellipses (442, 444).

11. A device according to claim 10, characterized by the fact that the length of the footprint (440) lies in the range 250 mm to 350 mm, and is preferably about 300 mm, and its width lies in the range 100 mm to 180 mm.

12. A device according to any one of claims 6 to 11, characterized by the fact that the position-identifying means (400) include a mechanical abutment (450).

13. A device according to claim 12, characterized by the fact that the mechanical abutment (450) is adapted to act as an abutment for the heel of a shoe.

14. A device according to any one of claims 1 to 13, characterized by the fact that the detector means comprise transmitter coils and receiver coils (250, 260) adapted to detecting metal objects.

15. A device according to any one of claims 1 to 14, characterized by the fact that the detection magnetic field is modelled in optimum manner relative to those zones of a shoe that usually present the greatest quantity of metal.

16. A device according to claim 14 or claim 15, characterized by the fact that the detection field of the detector means (250, 260) is advantageously shaped at a distance from the heel of the shoe that lies in the range 10 cm to 20 cm, and is preferably about 15 cm.

17. A device according to any one of claims 14 to 16, characterized by the fact that the detection magnetic field of the detector means (250, 260) is advantageously shaped at a distance from a mechanical abutment (450) that lies in the range 10 cm to 20 cm, and preferably is about 15 cm.

18. A device according to any one of claims 1 to 17, characterized by the fact that it includes means (300) delivering visible or audible messages guiding the user during the successive detection steps.

19. A device according to any one of claims 1 to 18, characterized by the fact that it includes means (740) for randomly drawing lots to designate individuals randomly for undergoing one or more additional tests.

20. A device according to any one of claims 1 to 19, characterized by the fact that it includes means (800) for picking up vapors or traces of particles, e.g. of

drugs or explosives, and for analyzing said vapors or traces.

21. A device according to claim 20, characterized by the fact that the means for picking up vapors or traces comprise suction nozzles (800) on the supporting base (100).

22. A device according to any one of claims 1 to 21, characterized by the fact that it includes two vertical panels (200) projecting from the supporting base (100) and housing transmitter coils (260) and receiver coils (250).

23. A device according to claim 22, characterized by the fact that the vertical planes (200) possesses suction nozzles (800) for picking up vapors or traces of particles.

24. A device according to claim 22 or claim 23, characterized by the fact that the height of the vertical panels (200) is adapted to detecting objects up to knee height on an individual being inspected.

25. A device according to any one of claims 22 to 24, characterized by the fact that the height of the vertical panels (200) lies in the range 300 mm to 900 mm.

26. A device according to any one of claims 1 to 25, characterized by the fact that it includes a plurality of coils that are offset vertically.

27. A device according to any one of claims 1 to 26, characterized by the fact that it includes a plurality of coils that are offset horizontally.

28. A device according to any one of claims 1 to 27, characterized by the fact that at least one of the vertical panels includes means (612) for displaying the height at which a prohibited object has been detected.